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NOTES FOR CONTRIBUTORS

Members of the Society (and non-members) are asked to follow these simple instructions when writing articles or letters for submission to the *Bulletin*. The *Bulletin* is presented six times a year in a duplicated format: the paper size is 20.5×23 cm (10×8 inches), line drawings can be reproduced but the area should not be more than 17.5×23 cm. Lettering on figures should preferably be in 'Letraset', neatly done in Indian ink or left blank: if the last method is followed, the lettering should be indicated on an overlaying sheet and should *not* be done on the figure. Figures should be prepared on good quality white writing paper and not on Bristol Board or other thick material. Whenever plants or animals are mentioned the scientific name should also be given but not in parenthesis. Trinomials should not be used unless there is good reason to do so. Author's names of species are not required.

Contributions may be typed (preferably) or written clearly and should be sent to: M. P. Clifton, Box 44486, Nairobi, Kenya. Receipt of contributions will be acknowledged.

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SOME OBSERVATIONS ON THE SPOTTED HYAENA IN FOREST AREAS PART 2

In this, the last of my series of articles about animals of the Aberdares, Kenya, I will describe various killings by Spotted Hyaena, Crocuta crocuta in the forest which illustrate the tremendous adaptability of this little understood predator, its capacity for opportunism, and the difference in hunting techniques from that described by Hans Kruuk in his book 'Hyaena'.

First I wish to stress that, even after two decades of virtually full protection in this National Park, the Hyaena remains a predator of the night, and such activity we witness in the early morning and evening is unconnected with hunting unless an unexpected opportunity occurs.

A Hunter's duties in a game-viewing Lodge such as mine occupy fifty percent of his time, so naturally he does not witness all the kills. I will mention two because, though I was not on duty at the actual time of killing., extremely interesting incidents occured later.

Soon after the Lodge opened an old Buffalo cow, Syncerus caffer, became stuck in the mud during the early morning, and National Parks were informed a few hours later. Normally they follow a policy of non-interferance with Nature, but where the public is involved, they try to avoid painful and distressing scenes. Accordingly a small truck containing Rangers and ropes was sent to the scene, and by mid-afternoon she was safely hauled onto dry land. However, she never fully recovered, and by nightfall still lay resting on the grass. She was soon found by a single Hyaena, and, when he had called up a few of his friends, they attacked the soft parts of the belly. It was, apparently, not a pleasant sight and, in spite of the numbing effect of shock, there is little doubt that she suffered. She would have found a more peaceful death in the mud.

When I came on duty there was little left beyond the rib-cage. Late that night I witnessed a grand tug-of-war for possession between a single Hyaena and a Giant Forest Hog boar, Hylochoerus meinertzhageni. The Hog won, chased the Hyaena away, and nibbled his prize in peace.

The next kill was of an almost full-grown Buffalo bull. It was an all-night affair, the beast being stood in various places all over the glade, and he finally fell in shallow water close to the building. Again I did not arrive on duty until a good half of the body had been eaten. By the third night it was gone, even the head and rib-cage had been hauled out into

the bushes. Late that night a Hyaena bitch arrived with two small puppies. They sat expectantly on the bank while their mother ploughed chest deep through the mud. Eventually she brought out long slivers of white meat which she fed to them. At the time I thought she was mearly finding left-overs from the feasting, but now, after reading Hans Kruuk's book, I realise that she must have deliberately hidden them. Another interesting sight that night was a Slender Mongoose, Herpestes sanguineus, a diurnal predator seldom seen except in hot weather, searching diligently along the waters edge. In that case it would be simply scavenging.

It was late and the glade had emptied of nearly all animal life. A dozen people still sat hopefully in the glassed-in viewing lounge. Suddenly a noise arose, a crashing of bushes and a pounding of hooves reminiscent of a Calgary Stampede. Out of the forest opposite burst a herd of a dozen Buffalo and close on their heels raced a huge Hyaena. She was red from jowl to toes. There was a narrow neck of land between building and water, and along this the herd thundered, dust rising as they hit the hard-packed earth. So close was the herd that a playing card would have stayed in place had it been put between their ribs. Behind their matriarchal leader came seven more Hyaena, but they hesitated and finally halted when they neared the building. Not so their leader: she remained, and they all thundered past together.

After milling around for a few moments the seven Hyaena returned and circled the pool, and, though we did not appreciate the manoeuvre at the time, it was a strategy which eventually brought the herd back again.

For a few minutes all was quiet in the empty glade, and we began to wonder if it had not been a dream. Then again came that thunder of pounding hooves, but no sound from the hunting Hyaena. Again the herd burst into view, and this time they came to a halt right opposite the photographic pill-box or 'dungeon', and the eight Hyaena quickly encircled them.

It was a bachelor herd of Buffalo, and the attacked beast was about two years old; almost full-grown. He was in a truly shocking state, with bite-marks showing from anus to hocks. The tail, strange to say, was still intact but was badly bitten around the roots. The scrotum was in scarlet tatters. A long double white line down to the groin showed where teeth had failed to penetrate the tough hide. He was in a state of extreme agitation, and lunged at any Hyaena which came near.

The herd stayed for over an hour, and most of the Hyaena lay down with head on paws, watching intently. One experienced

an air of unreality, it was obvious that each Hyaena knew that time was on their side, and that eventually he must go down. Whenever a Buffalo approached the cordon the nearest Hyaena would rise, then he would change his mind and return.

After a while some of the bulls actually commenced licking the salty earth, but the wounded one remained in a state of extreme agitation. His sides heaved continuously, though the rest of the herd were normal. It suddenly struck me that this high level of stress would play an important role in his final collapse. At one stage he appeared to think that the 'dungeon' was the cause of his troubles. Possibly he heard the whispered conversation of it's occupants for he charged to within a few metres, and stood staring within. He may have been blinded by the proximity of the powerful lights but nevertheless it was sad looking into those troubled eyes.

At another stage one of the older bulls came over and licked the blood from his haunches. This is in direct contrast to the behaviour of American Bison which are reported to go berserk at the smell of fresh blood. They were said to butt a gut-shot cow until those merciless hunters of the last Century had killed every single member of the herd.

Eventually one of the bulls forced his way through the cordon; the whole herd thundered across the glade with the pack of Hyaena in persuit, and the hunt, as far as we were concerned, ended as abruptly as it had begun.

Another unsatisfactory hunt took place during the rainy season when guests were few. The night-watchman awoke me at three a.m. to report, "Fisi kula mboga, Bwana". (Hyaena are eating a Buffalo). I hastened down to the viewing lounge, camera at the ready. A sight met my eyes which I will never forget. Hock-deep in the muddy water by the 'dungeon' wall two Buffalo stood side by side. Facing them was a ring of sixteen Hyaena. From those excited predators came a chattering sound very like that made by squirrels. One Buffalo was an old bull and the other a yearling, and of course it was the yearling which was all tattered and torn at the back end. This association of an old bull with a yearling is not uncommon. I paused only long enough to take in the situation, and then made for the 'dungeon' steps, thinking I would obtain the photographic scoop of the Century. At that moment the old bull decided enough was enough, floundered out of the mud, and galloped across the glade, his unfortunate companion behind him, and the pack following. Apart from those excited catterings there had been no sounds.

The saddest killing was that of a Buffalo calf no more than a few hours old, and it took place right in front of the building, and with a large audience. That was the night women cried and men told me to go and shoot the 'bastards',"I will tell the Parks it was really necessary", one man blandly informed me.

A Buffalo kill had taken place the night before in the valley, and, though we had not witnessed it, the noise had been terrific, and eventually Hyaenas returned with sagging bellies. The following night was remarkable only for the number of Hyaena lying sleeping. All other animals were keeping a respectful distance. That was the position when the Buffalo cow decided to bring her new-born calf into the arena of the arc-lights. The result was a foregone conclusion. She had a mid-wife cow with her, and the calf stumbled along between them. This association of mother and mid-wife companion is a phenomenon of many species. Why these two Buffalo should come so confidently towards the salt-lick we will never know, unless the ever present smells of the building blotted out that of the Hyaena. When they were about fifty metres away the nearest Hyaena rose to its feet and sauntered towards them, followed by others.

We had noticed many puppies of varying ages amongst the pack; another fact soon became apparent - the glutted Hyaena decided that here was a superb opportunity for the juveniles to learn how to kill. Very soon the nearest Hyaena were dancing round the trio, and the two cows circled continuously with lowered horns to hold them off. At this stage the calf had no difficulty in maintaining its position between them, but soon the gap started to widen, and the first Hyaena was able to dash in. No attempt was made at this or during subsequent attacks to bite the helpless calf, it was simply bowled over. Possibly they did not wish to waste time inviting a hook from those vicious horns. After half a dozen knock-downs the calf was finished and could no longer rise, and the pack simply poured over it like some gigantic rugby scrum. The two cows stood helplessly watching, one on either side, completely ignored by every Hyaena. One good bite would have finished such a fragile creature as a new-born Buffalo calf, but the incredible thing was that from time to time gaps in the scrimmage showed the calf with its head lifted off the ground, obviously still alive. Eventually, after what seemed an eternity to the watchers, the Hyaena puppies backed out with bits and pieces, and started running towards the bushed with them. Then came a slightly larger pup holding the head of the calf high in the air. It kept tripping over pieces of torn skin, and two of its brothers or sisters were continually mobbing it for possession. The trio passed so close to the 'dungeon' windows that the spectators could have almost stretched out and touched them. In only a matter of minutes

there was hardly a stain on the trodden earth to show where the kill had lain, and Hyaena were busy licking to erase even that. By now the whole pack of nearly fourty had assembled, and were filling the air with their unearthly cries.

Killing of animals such as Bushbuck, Tragelaphus scriptus, is probably a matter of opportunity rather than design, as the Bushbuch can slip through dense vegetation much quicker than can a Hyaena. I left the dining room one night as I wanted to check on a nightwatchman who was new to the job. As I entered the lounge I saw an incredible sight : an adult Bushbuck was on the salt lick close to the building, and around him stood four expectant Hyaena. Suddenly the Bushbuck appeared to lose his temper, lunged at the nearest, and chased it at incredible speed right across the hard-packed earth arena. Fourty metres away he overtook it, knocked it down, and then tried to horn it with that beautiful trophy head. Had they been dagger-like prongs of a juvenile instead of such exquisitely twisted horns, I am sure they would have pierced much more effectively.

The other three Hyaena had followed in more leasurely fashion and, as they drew near, one of them seized the opportunity offered. In a matter of seconds it had raced in, bitten off not only the tail, but about a kilo of meat from the rump as well, and was away before the Bushbuck could turn round.

In spite of this awful wound the buck bounded back towards the building and went underneath, emerging at the far side, and then disappearing into the forest. When the three Hyaena arrived with the fourth limping in the rear, they stopped at the point where the fugitive had gone beneath the Lodge, hesitated a few moments, and then raced round the building and so out of sight. No doubt they feared a trap, and when a Bushbuck takes refuge in a bush under similar conditions they probably encircle it, and wait either for it to give evidence of dying, such as moans and thrashing, or dashing out again. Had that Bushbuck stood his ground probably the Hyaena would have finally left him alone.

Since writing my last Hyaena article a further spectacular kill has been witnessed, this time a Waterbuck calf, Kobus defassa, about four months old. The staff told me later that the mother brought her calf to drink at the Lodge pool a number of times but always around 10 a.m., after the guests had left. Why she suddenly decided to arrive late at night we can only guess. Animal behaviour is always changing, and it is one of their most powerful means of preservation . . to keep their enemies guessing as to their next move. It could be that she feared a Leopard, Panthera pardus, who would grow wise if she stayed diurnal, and lie in ambush for her calf.

During the evening a number of Hyaena had roamed the glade, and I was under the impression that they were still glutted from a kill they must have made some nights ago. Certainly they appeared bloated, and spent a considerable time somnolent.

The Waterbuck mother was on the far side of the pool, and her calf had wandered some thirty metres to our side when the first Hyaena emerged from the bushes and cut off its retreat. In a matter of moments other Hyaena emerged, and the calf was trapped in knee-deep water, with little hope of ever getting back to its helplessly watching mother.

The actual attack was made by a huge matriarchial bitch, and the knock-downs were the result of a series of jumps, using the weight of the body as an addition to savage bites of whatever part of the victim happened to be nearest. The role of the other Hyaena appeared to be simply to prevent the frantic efforts of the calf to return to its mother. They made no attempt to actually attack, but merely obstructed by their presence. The calf's strength was quickly sapped, and soon it was down for the last time. Drowning was unquestionably an added factor to what was a comparatively quick death.

Once the calf was down the bitch stood on the partly submerged body and commenced to tear great strips of flesh and hide away, using her feet as leverage. She also kept the rest of the increasing pack away, biting one smallish cub savagely, so that it ran away yelping. Only when a considerable amount had been eaten did other Hyaena succeed in sneaking up and tearing away lumps. Fourteen Hyaena were counted and seven more arrived later. Soon nothing was left, and it was noticeable how those late arrivals spent a long time licking clean the rushes and the mud where pieces had been dragged.

Superstitious Africans tell us that the heavy shoulders and back of the Hyaena is because witches ride them through the night. Scientists tell us that Nature makes them that way because they are quarrelsome, fighting to obtain the choice parts they want to eat alone, and that it gives them the ability to push their way around. I wonder if there is another unsuspected reason ? With small and defenceless animals such as Buffalo and Waterbuck calves, does it enable them to be knocked down effectively before the mother can retaliate with sweeping horns and razor-sharp hooves ?

R.J. Prickett,
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BAT-EARED FOX CUBS BEING SUCKLED BY TWO FEMALES

As information about the social life of the Bat-eared Fox, Otocyon megalotis, is conspicuously missing from general works on African mammals, an incident that I observed at Amboseli, Kenya on 21st December 1976 seems worth recording.

At about 17.45 hours I spotted four Bat-eared Foxes sunning themselves on bare ground near their earth which could be described as a warren since several burrows opened in an area of about 50 m^2. After I had watched the Foxes for a few minutes, one, clearly a lactating female, stood up, walked over to one of the holes and called; two cubs emerged and proceeded to suckle. While the cubs were suckling another lactating female stretched herself and went over to the warren where she lay down close to the first female and cubs. The two females did not display any apparent antagonism towards one another, but the first moved about four metres away where she was joined by the cubs whom she started to groom. The second female waited a minute or so and then walked over and stood next to the cubs, whereupon they started to suckle from her, deserting the grooming female who left the warren and rejoined the other two adult Foxes. The cubs suckled for about 10 minutes; when they stopped the second female also rejoined the adult group. The cubs made no attempt to follow her, but remained outside the burrow for about five minutes before returning underground.

With the advent of dusk the four Foxes became restless and finally set off across the plain. As they departed I was able to see that the group contained a third female, with non-enlarged mammary glands, but I was unable to sex the fourth Fox.

J.F. Reynolds,
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BIRD WATCHING IN AMBOSELI

The purpose of this article is to describe two areas of ornithological interest in Amboseli National Park, Kenya which may be unfamiliar to many Kenya birders. The first has existed for only a short time, and will thus be unfamiliar to those who have not visited the Park for some time, while the second is simply out-of-the-way.

The Park's multiple land-use programme includes the regulation of water out of Enkongo Narok Swamp to provide alternative

water sources and grazing areas for the local Maasai tribesmen. This project has had some interesting effects on the avifauna of the Park. In late 1974 a road which blocked the flow of water out of the northeast end of the Swamp was breached, creating a large area of open water at the end of this new outlet. This is now the largest area of open water in the Park, and it provided excellent viewing of many water birds, including several not previously recorded in the Park. Besides open water, there are large areas of shallows, mud flats, surface vegetation, Pistia etc., and flooded thickets of young fever trees, Acacia xanthlophloea. The Park's plans indicate substantial fluctuations in the water level to be likely in the future. It will thus be interesting to follow changes in species present as correlated with habitat changes.

I have recorded the following species in this area : Little Grebe Tachybaptus ruficollis, Long-tailed Cormorant Phalacrocorax africanus, Grey Heron Ardea cinerea, Black-headed Heron A. melanocephala, Goliath Heron A. goliath, Great White Egret A. alba, Yellow-billed Egret Egretta intermedia, Little Egret E. garzetta, Cattle Egret E. ibis, Squacco Heron Ardeola ralloides, Abdim's Stork Ciconia abdimii, Marabou Stork Leptoptilos crumeniferus, Yellow-billed Stork Ibis ibis, Sacred Ibis Threskiornis aethiopicus, Hadada Ibis Bostrychia hagedash, Glossy Ibis Plegadis falcinellus, African Spoonbill Platalea alba, Lesser Flamingo Phoenicopterus minor, White-backed Duck Thalassornis leuconotus, African Pochard Netta erythrophthalma, European Shoveler Anas clypeata, Garganey Teal A. querquedula, European Teal A. crecca, Hottentot Teal A. hottentota, Red-billed Duck A. erythrorhyncha, Pintail A. acuta, White-faced Tree Duck Dendrocygna viduata, Fulvous Tree Duck D. bicolor, Knob-billed Goose Sarkidiornis melanotos, Egyptian Goose Alopochen aegyptiacus, Ruppell's Griffon Vulture Gyps ruppellii, White-backed Vulture G. africanus, Nubian Vulture Aegypius tracheliotus, Hooded Vulture Neophron monachus, Tawny Eagle Aquila rapax, Bateleur Terathopius ecaudatus, African Fish Eagle Haliaetus vocifer, Pale Chanting Goshawk Melierax canorus, Pallid Harrier Circus macrourus, Marsh Harrier C. aeruginosus, Black Crake Limnocorax flavirostra, Purple Gallinule Porphyrio porphyria, Allen's Gallinule P. alleni, Moorhen Gallinula chloropus, Red-knobbed Coot Fulica cristata, Crowned Crane Balaerica regulorum, Spotted Stone Curlew Burhinus capensis, African Jacana Actophilornis africanus, Ringed Plover Charadrius hiaticula, Kittlitz's Sand Plover C. pecuarius, Three-banded Plover C. tricollaris, Grey Plover C. squatarola, Blacksmith Plover Vanellus armatus, Long-toed Lapwing V. crassirostris, Avocet Recurvirostra avosetta, Black-winged Stilt Himantopus himantopus, Painted Snipe Rostratula benghalensis, Curlew

Sandpiper Calidris testacea, Little Stint C. minuta, Temminck's Stint C. temminckii, Ruff Philomachus pugnax, Turnstone Arenaria interpres, Black-tailed Godwit Limnosa limnosa, Spotted Redshank Tringa erythropus, Common Sandpiper T. hypoleucos, Wood Sandpiper T. glareola, Marsh Sandpiper T. stagnatilis, Greenshank T. nebularia, Pratincole Glareola pratincola, White-winged Black Tern Sterna leucoptera, African Skimmer Rynchops flavirostris, Chestnut-bellied Sandgrouse Pterocles exustus, Black-faced Sandgrouse P. decoratus, White-browed Coucal Centropus superciliosus, Pied Kingfisher Ceryle rubis, Malachite Kingfisher Alcedo cristata, Grey-headed Kingfisher Halcyon leucocephala, Yellow Wagtail Motacilla flavus, European Swallow Hirundo rustica, African Sand Martin Riparia paludicola, Banded Martin R. cincta, Long-tailed Fiscal Shrike Lanius cabanisi, Wattled Starling Creatophora cinerea, Taveta Golden Weaver Ploceus castaneiceps, Waxbill Estrilda astrild.

I have omitted a large number of species from the list which occasionally visit the area to drink. To reach the area, proceed from Ol Tukai Lodge to the airstrip (4km). Rather than turning right into the airstrip, continue straight on the smaller track for a distance of 2.1km. One can then proceed left along the near shore or go right and around the water to the far shore where there is a great variety of species.

The Engumii Springs are located southeast of Amboseli National Park. Water flows West from the springs into Namalok Swamp, and many birds are to be seen along the water course. The springs themselves, surrounded by figs, Ficus sp. and other trees quite uncharacteristic of the Amboseli area, provide by far the best birding, however. This oasis, contrasting with the adjacent arid bush, is extremely scenic, although this varies with the usage of the spot as a watering place by the local Maasai. At any time, however, one can view a large number of typical bush-country species visiting the springs as well as more unusual species attracted to the unique (for Amboseli) vegetation around the Springs. The following species are but a few of those recorded there :
African Hawk Eagle Hieraaetus spilogaster, Green Pigeon Treron australis, Yellowbill Ceuthmochares aereus, Red and Yellow Barbet Trachyphonus erythrocephala, Paradise Flycatcher Terpsiphone viridis (white phase), Sulphur-breasted Bush Shrike Malaconotus sulfureopectus, Grey-headed Bush Shrike M. blanchoti, Beautiful Sunbird Nectarinia pulchella, Dark-backed Weaver Ploceus jacksoni (breeding colony), Taveta Golden Weaver P. castaneiceps (breeding colony).

Reaching the springs is rather difficult. Nineteen km beyond the Ol Tukai petrol station towards Loitokitok one crosses

a marked bridge. A large tin-roofed building is 4.2km beyond the bridge, on the right of the road, and a small track goes off to the left. This track is quite rough in places, although negotiable in a saloon car with adequate clearance. The original track is washed out, so that one follows at all times the resulting ditch. After 3.4km there is a fork, and here one continues straight alongside the ditch rather than veering left, although the correct track is barely visible at best from here for a distance of .7 k.m. One then intersects a large track and continues straight on it for a distance of .5km to the Spring.

Jeffrey R. Walters,
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P.O. NAMANGA, Kenya

CARMINE BEE-EATERS ROOSTING UP THE MIDA CREEK

We first saw the Carmine Bee-eaters, Merops nubicus up the Mida Creek in mid-February 1972 (18th Feburary 1972) - quite accidentally. We were bird watching up the far end of the creek much later than usual, and on our way back saw what in the distance appeared to be black birds circling round in a kind of huge swarm, like locusts. On viewing them closer we realised they were Carmine Bee-eaters gathering to roost, in thousands. We had heard of this in Kilifi Creek, but had never seen them. Entranced, we sat in our boat and watched them circling round a patch of mangroves, Rhizophora sp. under .40ha, which at half tide and over becomes an island. After they had finally gone in we left, determined to go there again earlier in the evening to watch. We kept this find to ourselves for a while, hating the idea of noisy tourists coming in boats to shatter this fantastically beautiful scene, and for a while no other boats came.

We estimated there were three - four thousand birds coming in every evening to roost. They flew in in flights of fifty to two or three hundred from all directions to alight on tall casuarinas, Casuarina equisetifolia, along the edge of the creek, and a large Baobab, Adansonia digitata behind the roost. Every so often large flights took off, circled round and back again; then at a seemingly given signal they took off en-masse and started to circle round the roost, lower and lower. Some went into the Mangroves, and then up they would all go to circle down all over again. This happened two or three times, and then they came down and went in fast; within a minute or two they were all out of sight and all that remained was a quiet chattering. With the sun setting behind the distant hills and clouds, an orange-

pink streaked sky and a pink washed sea, the scene was indescribably beautiful. But the monsoon was changing, and on 6th March they had gone, leaving about a dozen or so, by the 3rd April these too had departed.

From then on we have kept watch and have recorded their comings and goings as follows :

First time seen - 18th February 1972 until 5th March - about a dozen remained until 3rd April 1972.
First seen 30th January 1973 - last seen 3rd April 1973
First seen 15th December 1973 - last seen 30th March 1974
First seen 2nd November 1974 - last seen 1st April 1975
First seen 7th December 1975 - last seen 28th February 1976
First seen 5th December 1976, approximately 500 migrating South last seen 25th March 1977, approximately 2000 migrating North. N.B. Very few residents during 1976-77 season.

This last season the pattern changed - on 5th December 1976 we saw a flight of about five hundred migrating South, who roosted somewhere off the creek on the South side where there are small mangrove islands, but as we were waiting up at the usual roost we missed seeing where they actually went in. We saw another couple of smaller flights of about fifty to one hundred only flying over to roost in the same direction early in December, but only a dozen or so came in to the normal roost later in the season, and in March these were accompanied by 20 - 30 Madagascar Bee-eaters, Merops supercilliosus.

On 22nd March we saw approximately 200 coming in and going through the usual routine and circling the roost before finally going in. We returned again on 25th March and this time they were flying in from all directions, we estimated about two thousand or more birds roosting there, but they must just have called in from South en-route North, for within a week they were all gone apart from ten who were still there with the Madagascar Bee-eaters.

We heard from friends in Juba that there had been unusually heavy rain in that area for quite a long period, which may have accounted for the Carmine Bee-eaters not having migrated South for food. Perhaps that is where our 'group' goes to breed.

We will watch with interest what happens next season.

Anne and Pat Donnelly,
P.O. Box 420,
MALINDI, Kenya

WHITE-BELLIED GO-AWAY-BIRDS SHARING FEEDING DUTIES

Down on the Tana River, Kenya in early November 1976, we were interested to observe, without any doubt at all, the sharing of feeding duties by a pair of White-bellied Go-Away Birds, Corythaixoides leucogaster, with a third bird. One of these apparently adult birds had a clear pea-green bill. Mackworth-Praed and Grant do not describe either sex nor the immature bird as having such a bill colour, but do so in the case of the Go-Away-Bird, C. concolor.

We would be interested to know if shared feeding duties by this bird are known to others, and details of bill colour.

Dr and Mrs G.C. Irvine,
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P.O. CHOGORIA, via Embu,
Kenya

RINGED PLOVER TAKEN BY FISH EAGLE

During the Tana River Expedition, 1976, a Ringed Plover, Charadrius hiaticula was caught in a mist net set up in tidal mudflats in the mangroves at the mouth of the Tana River, Kenya. After being weighed, measured and ringed the bird was released and flew across the river, settling on the opposite bank directly underneath a Fish Eagle, Haliaetus vocifer. The Fish Eagle flew down and at first knocked the Plover over, returning a second time and taking it to its perch where it was eaten.

Sandy Evans & Kenneth Campbell,
Tana River Expedition.

RINGING NEWS

The Ringing Report for 1974/76 is now rather overdue; I was waiting for more recoveries but none have come in for several months now. As the Palaearctic ringing season is almost over it seems a pity not to include the 1976/77 Palaearctic totals in the next report. I would be most grateful if all ringers would contact me by mid-May listing all Palaearctics ringed and not yet submitted on schedules; alternatively, send in schedules up to mid-May. If you are a ringer but have not ringed any Palaearctics or don't intend to ring any between now and mid-May, please let me know. Thank you.

Graeme Backhurst, Ringing Organizer, P.O. Box 29003,
NAIROBI.

HINTS ON PLANT COLLECTING PART 1.

In this first article on plant collecting we will describe the basic technique for collecting plants and how to make your collection a valuable one.

The plants collected should be as complete as possible. They should have leaves, flowers and fruit, when possible, or if the plant is a small one the whole thing should be dug up to show the root system as well. Without flowers and/or fruit it is normally impossible to identify it.

Once the plant has been collected, GIVE IT A NUMBER. If you are starting a new collection begin at 1, and make sure that your name is with the number. Duplicate specimens of the same species should be numbered alphabetically (i.e. 1, 1a, 1b)

Detailed notes are very important for the identification of plants. These notes should be made at the time of collecting in a note book taken for this purpose. The notes should include:

a) What country and province
b) Collector's number as described above
c) The name of the plant, family, latin name and vernacular where known.
d) Whether any uses are known for the plant, for medicine, brewing, timber etc.
e) Where the plant was found. This should be as detailed as possible, giving distance (in km) from the nearest town or village, and the map reference.
f) Altitude to the nearest 50m
g) Habitat. Give, if known, soil type, vegetation type; forest, scrub, grassland etc, whether the ground is flat or hilly, in shade or sun, seasonally flooded etc. If possible also give the dominant species in the area.
h) Description of the plant: Annual or perennial, erect or prostrate herb, scrub or tree. The hight and variation in hight can be important, so check other specimens of the same species near by. Describe the inflorescence type, e.g. spike, solitary etc. the colour of the flowers, their size, number of petals, whether the same colour above and below, if the petals are joined at the bottom, or separate etc. The fruit, if available should also be described, size, colour, shape, smooth or warty etc. Any variation of the colour of any of these parts, as shown be other specimens in the same area should be noted. The scent of flowers, leaves or stems should be noted if there is any. Any information not shown by the specimen, such as bark of a tree should be described. The abundance and general appearance of the plant should also be in the description.

i) Collectors name (in capitals)
j) The date, given as day, month (written) and year.

All this information is needed for the Herbarium forms which will go with the specimen later.

Having described the specimen it should be pressed in a standard plant press. This can be done roughly at first, but the plant should be re-arranged when it has wilted (after a couple of hours for most plants). One or two flowers should have the petals bent to show the internal structure, and the leaves should be pressed flat and show the under and well as the upper side.

The blotting paper in the press should be changed every day to stop the specimens going mouldy. When doing this make sure that the number stays with the specimen. When wet specimens are collected (e.g. in rain or after heavy dew), leave them to dry before pressing them.

The most important part of a plant collection is the making of the notes. It cannot be stressed enough that these should be made at the time the plant is collected. It is also important to dry them as quickly as possible, but not too much artificial heat should be used as this can dry out the plants too fast and make them very brittle.

Once the plant is completely dry it should be mounted on stiff card 26.6 by 41.8 cm (10½ by 16½ inches) using PVA wood glue. The notes which you made in the field should be transfered to a Harbarium form, and this is stuck on the bottom right-hand corner of the card.

In the second article on plant collecting we will describe how to collect plants from 'difficult' groups, such as the Lobelia, succulents, and cactus !

We hope that these short note will help you to make your plant collection attractive, interesting and valuable.

Mike Clifton & Dennie Angwin
P.O. Box 44486,
NAIROBI.

LETTERS TO THE EDITOR

Dear Sir,

Avian Nomenclature

I would like to reply to Miss Allen's letter, EANHS Bulletin 1977, p. 43-44, in which she writes of the confusion which exists in the minds of some people concerning the nomenclature of East African birds.

She mentions 'the new nomenclature' and implies that this was the nomenclature used in the Backhurst & Backhurst 1970 list and the one being used by Mr Cunningham-van Someren in his forthcoming work. She also states that 'the new nomenclature is not generally available'.

The 1970 list followed the nomenclature used by C.M.N. White in his check-lists of African birds published between 1960 and and 1965 in Rhodesia and Zambia. White's lists were certainly generally available (and may still be), but they covered the whole of the Ethiopian region and the birds were not provided with English names. The need for a check-list of East African birds has long been felt, hence the production of the 1970 Preliminary Check-List which was, incidentally, available to all readers of the EANHS Newsletter, and included English names and Mackworth-Praed & Grant numbers. Mr Cunningham-van Someren's list is also likely to be available to all.

Check-lists become out of date in two ways: first, if a species is added to a country's avifauna, it is obvious that an existing list will not include that bird. The owner of the check-list need only insert the 'new' bird, plus any extra details he may desire.

The second way a list can become out of date is quite a different matter, and concerns changes in nomenclature rather than changes in the distribution of birds. The nomenclature used by Mackworth-Praed & Grant employs far more genera than that adopted by White. The genus is a taxon which is designed to accomodate species which are considered to be closely related. When the binomial system of nomenclature was in its infancy in the 18th and 19th Centuries, rather few genera were recognized; thus Linnaeus in 1758 put the Redstart in his genus Motacilla which also included some Wagtails, the Wheatear, the Whinchat, and the Willow Warbler. As more became known about birds, taxonomists became dissatisfied with genera which held species as diverse as Wagtails, Warblers and Thrushes, and they did the only sensible thing, they created new genera to house these species - genera which enable people to appreciate the relation-

ships of different birds. Thus, even today, all but one of the world's Wagtails are put in the genus Motacilla, except by Mackworth-Praed and Grant, all the Willow Warbler-like Warblers in Phylloscopus; these are easily comprehended by 'ordinary, rank-and file' birdwatchers, and I doubt that anyone has difficulty in accepting these particular two genera.

The situation would have remained 'reasonable' had ornithology not 'advanced'. For an example to illustrate this point I will take some large, or fairly large, noisy Plovers with rounded wings and flappy flight. Mackworth-Praed & Grant recognize no less than 11 genera for the 14 species of these Plovers included in their East and North eastern Handbook, whereas White lumps them all in Vanellus. To admit 11 genera to house 14 species, all of which could loosely be termed Lapwings by any birdwatcher or ornithologist, serves no useful purpose whatsoever, that is surely why White scrapped 13 of these genera and retained just one, the oldest (Vanellus), into which he put all the species. As time goes on, someone is bound to study one of these birds in detail. He may well come to the conclusion that 'his' species (because he knows it fairly intimately) is very unlike other Vanellus Plovers and, in his writings, will either create a new genus for it or resurrect one which had been used previously. He will publish his paper in an ornithological journal, for all to see. Whether people follow his generic change or not is solely up to them.

Nomenclature is never static, it is always open to interpretation and to acceptance or rejection; whehter it is accepted internationally will depend on individual ornithologist's views concerning the validity of the changes. National recognition or acceptance, on the other hand, is something else: countries having a flourishing national ornithological body, such as Germany, Great Britain, the U.S.A. and Zambia, tend to produce lists of the birds of their country and, quite reasonably, expect the nomenclature (both scientific and vernacular) to be used in that country.

In East Africa we have no official list. When editing the Bulletin, I used White's avian nomenclature since this was the most recent covering the whole Ethiopian region; it also avoided perpetuating the clumsy names used by Mackworth-Praed & Grant and Williams (interestigly though, the German edition of William's first guide 'Die Vögel Ost- und Zentralafrika' uses the rather revolutionary nomenclature of Wolters).

I hope I have answered Miss Allen's questions 1, 2 and 4. Question 3 remains: in what order should birds be listed ? I cannot answer for Mr Cunningham-van Someren, but I personally

favour a modified alphabetical system, that is, a 'natural' order of Orders with all lower taxa arranged alphabetically within the Orders. We ornithologists are often rather conservative, parochial, and, at the same time arrogant, in our views regarding the order in which birds should be listed; some prefer to follow a 'natural' order even though almost nothing is known of the true relationships of most species, genera, sub-families and families. Countless examples of arbitary positioning of birds by various writers claiming to use a 'natural' order could be given - needless to say, no two authors ever use exactly the same order, they prefer to follow 'so-and-so', but 'with the following exceptions'. A modified alphabetical order as outlined above would solve all these problems, would be easier to use, would change hardly ever, would bring bird lists into line with those of other plant and animal groups and would not display spurious knowledge. There is no reason why an author's theories on relationships, within a genus for example, cannot be shown effectively by numbers, letters or signs appended to the various species' names.

Every time you use the index of a systematically arranged book to find a bird, you are, in effect, endorsing the alphabetical system.

As well as the references given at the begining of the Preliminary check list of East African birds, I would recommend several articles in A new dictionary of birds for those seeking more information on the naming and arrangement of birds.

G.C. Backhurst,
P.O. Box 29003,
NAIROBI.

Dear Sir,

In response to Miss Allen's queries on nomenclature I think the answers are as follows:
The 'new nomenclature' in the Revised Checklists of C.M.N. White, 1960 to 1965 is generally accepted internationally and locally but with some reservations, here and there, following even more recent studies in certain groups such as those of Hall and Moreau 1970 in Atlas of speciation in African Passerine Birds, Payne & Risley 1976 on Ardeidae and Irwin & Clancey 1974 on the Alethe and Robin-Chats for example.

The systematic order of Peters in a New Dictionary of Birds 1964 is, by and large, followed by most workers on both sides of the Atlantic when dealing with African birds and vide the

most recent publication, C.W. Benson et. al. Birds of Zambia 1971. The order will be followed in Benson's Birds of Malawi soon to be published. The Museum follows White basically with the new amendments as mentioned above.

Thus the answer to question 2 is that the system is fairly stable. Question 3 is partly answered as Yes, the Peter's system is followed by the majority of workers.

Question 4. Revisions should help everyone interested in birds as these cancell out errors made in the past, and I feel it makes it easier to understand the relationships between various groups of birds. There is still a great deal to be done, and further revisions will undoubtedly appear. Furthermore, errors should not be perpetuated. For example, the bird known as the Dappled Mountain Greenbul, No 762b in Mackworth-Praed & Grant Phyllestrephus orostruthus amani, Pycnonotidae, the Bulbuls has now been shown to belong to the Turdinae, the Thrushes, and placed in the genus Modulatrix with the Spot-throat, Modulatrix stictigula. Can we continue to perpetuate the now incorrect common English name of Dappled Mountain GREENBUL, when the bird is not a Greenbul, but a Thrush ? I shall list it in the new check-list as a Spot-throat.

I might add that it has become necessary to coin a few new common English names for some of the birds in the check-list which now nears completion, and would like to say that all the typing has been undertaken by a volunteer - but more anon on this.

Finally for information I can tell readers that it is almost impossible to obtain the five issues of White's Check-lists. Also, the Museum Newsletter from the Department of Ornithology is mentioned by Miss Allen. This is sent out free to anyone wishing to receive it on application from the Bird Room, the National Museum, Nairobi.

G.R. Cunninghan-van Someren,
P.O. Box 40658,
NAIROBI.

RECORD SECTION

MAMMALS Gazella thomsoni On several occasions since mid-July 1976 I have seen either solitary or two to three widely spaced Thomson's Gazelle between Tarangire Tented Camp and the Park gate, Tanzania. The Park guidebook reports that they do not occur in this area. G.R. Rinning, P.O. Box 284, ARUSHA, Tanzania.

PLANTS The following are new distribution records for A.D.Q. Agnew's Upland Kenya Wild Flowers

Euphorbia inaequilateria Sond. Euphorbiaceae. Machakos Region M. Clifton 168, September 1976

Aspilia mossambicensis (Oliv.) Wild. Compositae. Kajiado Region, M. Clifton 34A & B, May 1976

Tridax procumbens L. Compositae. Kajiado Region, M. Clifton 37, May 1976

Tagetes minuta L. Compositae Machakos Region, M. Clifton 170, September 1976

Lucas concinna Baker Labiatae. Kajiado Region, M. Clifton 107 May 1976

INSECTS Coleoptera: Cicindelidae

The following are extensions of known ranges :

Cratohaerea chrysopyga Wittorn 2 specimens 28/4/32, E. Surr. Ests. Trans Nzoia Stoneham. A West African species previously known as far East as Zaire and Uganda.

Lophyra saraliensis Guerin. 15 specimens: 22,28,29/4/26 10/7/26, 21/4/34, 24/5/35, 8/6/35, 20/7/35, 13/4/39. E. Surr. Ests., Trans Nzoia, Stoneham. Found throughout most of Africa South of the Sahara, but, as far as I know, not previously recorded from Kenya.

John Miskell, Coloepterist, The National Museum, P.O. Box 40658, NAIROBI.

REQUEST FOR INFORMATION

The Suni, Nesotragus moschatus

I have made one appeal for information concerning the distribution of this small forest antelope, but only received one reply from a motorist who knocked one down on the escarpment road, then reported 'it was excellent eating' ! Before finalising a paper on the biology of the Suni, I would much appreciate any data on the distribution of the animal, please. Where seen, month, year, and if possible the time of day or night. Distribution records are particularly required for Western Mau - Kericho, Sotik to Mara, Cherangani to Maralal, and all the isolated mountain forests.

G.R. Cunningham-van Someren,
P.O. Box 40658,
NAIROBI.

BOOKS WANTED

Mr D. Schmidl, P.O. Box 33, NAKURU, Kenya requires the following :

Jackson, Birds of Kenya Colony and Uganda Protectorate, 3 Vols.

Archer & Goodman, Birds of British Somaliland and the Gulf of Aden, Vols 1 & 2.
Meinertzhagen, Birds of Arabia.
Smythies, Birds of Borneo
Smythies, Birds of Burma
Please eontact Mr Sehmidl directly.

FOR SALE

Binoeulars One pair of U.S. Navy BU. Ships Mark 32 Binoeulars, 7 x 50 power with case. Individual eye-pieee foeus. Rubber eye-pieces missing. Excellent lenses. Shs 800.00 and

Teleseope One Foeal hand telescope deseribes as 20 x 30 mm with box. Shs 250.00. For the above two items, please contact the Secretary/Treasurer in the Society's office at the National Museum, or write to Box 44486, NAIROBI.

SOCIETY NOTES

Posters A former Secretary of the Society, Jean (Angwin) Lock, has designed a lovely poster for us. These are being printed, and should be available at the end of May. Members are requested to collect one or more from the Sociсty's office, and put them up in their plaee of work, club etc.

Informal Notelets Jean Lock has also designed 6 informal notelets which should also be ready at the end of May. The Soeiety will be selling these in paekets of 12, 2 of eaeh design, at a cost of Shs. 10.00. They will be available in the Office, and at most Society functions. The notelet and envelope will weigh less than 10g, so will be ideal for overseas posting. Our sincere thanks are due to Mrs Lock for helping the Society in this way.

Upland Kenya Wild Flowers Dr Agnew's exeellent book has still not arrived in Kenya, but we are taking orders from those members who want a eopy. Contact the Secretary/Treasurer.

Medicinal Plants of East Africa Copies of this book are still in stock, and the author, Dr Kokwaro will sign eopies at his leeture on 9th May. Cost to members Shs. 55.00

Car Stiekers Plenty in stock, only Shs 2.00 eaeh !

Nest Record Cards The Nest Record Scheme organizer, Mrs Hazel Britton has supplied us with more cards. Available in the Office

at a cost of Cts .5 each.

Bulletin We wish to apologise to members as this Bulletin will be late. Both the typewriter and the duplicator have been giving trouble, in fact at the time of writing the duplicator is still being repaired! To add to our problems, the office has been under several inches of water, due to the heavy rain, and hours have been spent drying that out !

Journal Sales The reprints from the Society's Journal are in great demand. They are available in the Office, but many are selling out fast, so hurry with your orders.

NEW MEMBERS

The following new members have been elected :

Local Full Members

Mr G. Balazs, Nairobi Club, P.O. Box 30171, NAIROBI

Ms Celia Bartlett, P.O. Box 750, THIKA, Kenya

Mrs Evelyn Bell, P.O. Box 47701, NAIROBI

Sir Michael Blundell, K.B.E., P.O. Box 30181, NAIROBI

Mr Clifford S. Bullwinkle, P.O. Box 44774, NAIROBI

Mr A.E.L. Bush, P.O. Box 44765, NAIROBI

Mrs Fiona M. Byatt, c/o British High Commission, P.O. Box 30465, NAIROBI

Mrs Elizabeth Byrne, P.O. Box 14489, NAIROBI

Mr C. Dewhurst, c/o DLCO, P.O. Box 30023, NAIROBI

Mr R.R. Emblem, P.O. Box 14240, NAIROBI

Dr and Mrs H. Griswold, P.O. Box 30588, NAIROBI

Mr and Mrs V.D. Gronde, Kajiado District Hospital, P.O. Box 31, KAJIADO, Kenya

Mrs Phoebe Ayugi Josiah, Division of Vector Borne Diseases, P.O. Box 20750, NAIROBI

Ms. Barbara T. Linardo, P.O. Box 30552, NAIROBI

Dr Fredrick Owino, Botany Department, P.O. Box 30197, NAIROBI

Ms Winifred B.N. Pamba, P.O. Box 47193, NAIROBI

Dr Norman H. Peckham, K.C.M.A., Private Bag, MOSHI, Tanzania

Mr F. Bjork Redersen, P.O. Box 40412, NAIROBI

Mr David D. Peterson, S.L.P. 1396, ARUSHA, Tanzania

Mrs M. Percival-Price, P.O. Box 46013, NAIROBI

Ms Fern Willis, Library - Cataloguing Dept. University of Nairobi, P.O. Box 30197, NAIROBI

Overseas Full Member

Mr Tim Parmenter, 48 Manor Avenue, HASSOCKS, Sussex, U.K.

Local Junior Members

Roland Allen, c/o Miss P.M. Allen, P.O. Box 14166, NAIROBI

Hesbon Mwendwa, Zoology Dept., University of Nairobi, P.O. Box 30197, NAIROBI.

SOCIETY FUNCTIONS

Sunday 8th May 1977 Botanical Study Trip to Lake Naivasha area. Leaders : Mr M. Clifton and Miss D. Angwin. Please meet at the Lake Hotel, Naivasha at 10 a.m. and bring a picnic lunch; however, members attending this trip are requested not to eat their lunch in the hotel grounds. The area has been very wet, so come prepared for rain and very muddy walking.

Monday 9th May at 5.30 p.m. at the National Museum Hall, Nairobi, Dr John Kokwaro of the Botany Department, University of Nairobi will give an illustrated lecture on MEDICINAL PLANTS

Sunday 15th May 1977 Half day Botanical excursion in the Nairobi area. Leader Mrs Fleur Ng'weno. Please meet at the National Museum at 9.00 a.m.

Weekend 4th/5th June 1977 Mr S. Moss and Mr D. Theobald will lead a short course on Basic Ecology. Please see the previous Bulletin for details.

Monday, 13th June 1977 at 5.30 p.m. in the National Museum Hall, Nairobi; An illustrated lecture by our Chairman, Mr John Karmali, F.R.P.S., on BIRDS THROUGH MY LENS

18th June 1977 and adjoining days as required : Meru Mulika Lodge in Meru National Park : Members have been offered the following :

Full Board : Adults Shs. 110.00 per person
Children Shs. 65.00 per person

Please send your booking as soon as possible on the enclosed slip with a stamped addressed envelope to Mrs A.L. Campbell, P.O. Box 14469, NAIROBI, with payment in full on crossed cheques made out to 'African Tours and Hotels Ltd. Cheques will be acknowledged later when bookings have been confirmed. Route instructions will be sent at the same time.

2nd/3rd July 1977 Week-end field excursion to KINDARUMA/KAMBURU area on the Tana River about 35km South East of Embu town. Leader : Mr Paul Rainey, B. Sc Members wishing to take part in this excursion to the dams formed by the hydro-electric scheme should be prepared to camp, bringing all equipment, food and water. It is hoped to study plants and wild life of the area. Please fill in the enclosed slip if you wish to attend, and return it to Mrs A.L. Campbell, P.O. Box 14469, NAIROBI with a stamped addressed envelope before 15th June. Route instructions and further details will then be forwarded.

Monday 11th July 1977 at 5.30 p.m. at the National Museum Hall, Nairobi, Mr R.D. Haller, Agronomist at Bamburi Portland Cement Co. Ltd., will give an illustrated lecture on THE REHABILITATION OF A LIMESTONE QUARRY

Monday 8th August 1977 at 5.30 p.m. in the National Museum Hall, Nairobi, Mr B.S. Meadown will give a lecture on WATER POLLUTION

22nd/23rd October 1977 A weekend camp by kind invitation of Mr and Mrs Webb, Nanyuki. Details later.

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Light reading The following article was seen by a member in the Pakistani Times :

There are many types of birds. Like sparrow, nightingale, ostrich, peacock, eagle vulture etc. They are of many types and colours which include white, blue, black, orange, red, yellow, green, maroon and brown etc. They live in many ways. Some live in trees, some in nests, some in long nests like 'Raia'. There are many big birds like ostrich and leopard of the Air. Some people say that ostrich is the biggest bird. But such I say that leopard of the air is the biggest bird. It eats monkeys of Africa and Lions and other animals. You know, all the birds lay eggs except the bat. The biggest egg is laid by 'Elephant bird'. Most of the new, strange, big, small and other types of birds are found in Africa. The bird which I like is 'parakeet'.

With apologies Ed.

THE EAST AFRICA NATURAL HISTORY SOCIETY

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MEMBERSHIP

This offers you free entry to the National Museum, Nairobi; free lectures, films, slide shows or discussions every month in Nairobi; field trips and camps led by experienced guides; free use of the Joint Society-National Museum Library (postal borrowing is also possible); reciprocal arrangements with the Uganda Society's Library in the Uganda Museum, Kampala; family participation: wives and children of members may attend most Society functions; one copy of the *EANHS Bulletin* every two months; a copy of each *Journal* published during your period of membership; the Society controls the ringing of birds in East Africa and welcomes new ringers and runs an active Nest Record Scheme; activities such as plant mapping and game counting are undertaken on a group basis. Membership rates are given at the foot of this page.

JOURNAL

The Society publishes *The Journal of the East Africa Natural History Society and National Museum.* Each issue consists usually of one paper, however, sometimes two or more short papers may be combined to form one number. The aim of this method of presentation is to ensure prompt publication of scientific information; a title page is issued at the end of each year so that the year's papers may be bound together. Contributions, which should be typed in double spacing on one side of the paper, with wide margins, should be sent to the Secretary, Box 44486, Nairobi, Kenya. Authors receive twenty-five reprints of their article free, provided that these are ordered at the time the proofs are returned.

E.A.N.H.S. BULLETIN

This is a duplicated magazine issued six times a year, which exists for the rapid publication of short notes, articles, letters and reviews. Contributions, which may be written in clear handwriting or typed, should be sent to The Editor (*EANHS Bulletin*), Box 44486, Nairobi, Kenya. Line drawings will be considered if they add to the value of the article. Photographs cannot be published.

SCOPUS

The Ornithological Sub Committee publishes this quarterly bird magazine. Cost: EANHS members KShs. 50/- p.a., non-EANHS members KShs. 75/- p.a. All correspondence to D. A. Turner, Box 48019, Nairobi, Kenya.

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